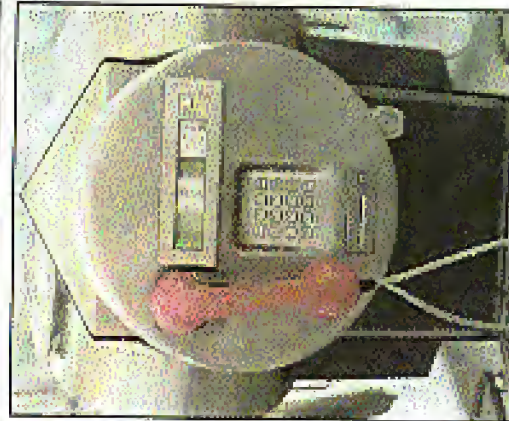
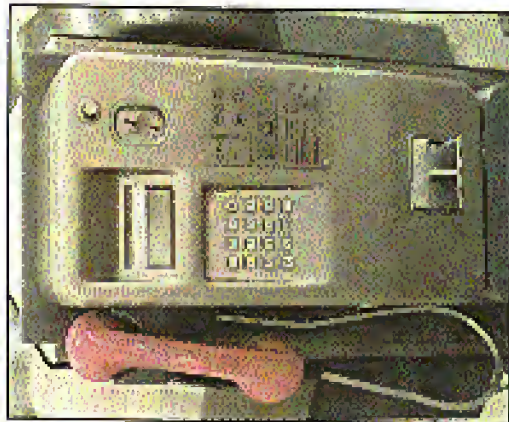
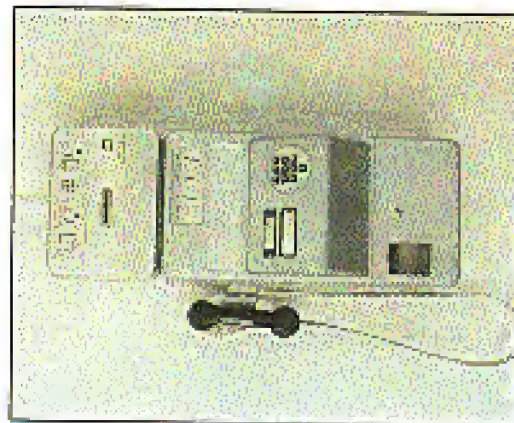


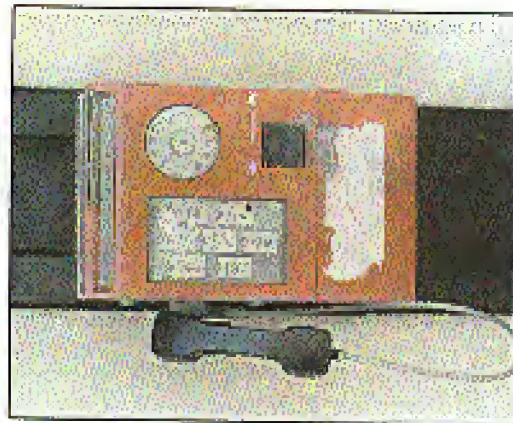
## Even More Payphones Than Ever



Evolution in Germany. Slowly, coins are being abolished and replaced by cards.



Diversity in Yugoslavia. If such radically different phones can coexist on the same network, surely there's a lesson to be learned for us humans.



Photos by Monique Vermeulen

Now showing: **MORE PAYPHONE PHOTOS** on the inside back cover!  
Have a look!

Volume Sixteen, Number Two  
Summer 1999 \$5.00 US; \$7.15 CAN

# 2600

The Hacker Quarterly

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KEVIN

*"Public disclosure and dissemination of the victim loss letters was clearly designed to cause additional injury to the victims of defendant's conduct or to cause such victims embarrassment or ridicule." - 5/6/99, from a motion filed by the prosecution in the Kevin Mitnick case after letters obtained by 2600 were made public - these letters claimed that Mitnick, simply by looking at some source code, managed to cost cellular phone companies several hundred million dollars, a huge figure that was never reported to the companies' stockholders, as is required by law.*

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# 2600

The Hacker Quarterly  
Volume Sixteen, Number Two  
Summer 1999

## In Black and White

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A great deal has happened since we last spoke of the Minnick case and, more than likely, even more has happened between the time this was written and the time you are reading it. Finally the fogges and mist cleared out of all the cases we've been involved in. The story of Kevin Minnick is now in the (corrected) stage and continues to shock and amaze those who have been following it.

Let's catch up. In April, Kevin was forced to make a deal with the government. We say forced because it's the most accurate word we could find. None of us are led to believe that when someone pleads guilty to a crime that they are in fact guilty. But it's not really that simple.

The first thing you have to keep in mind is that the Federal government wins over 95 percent of its cases. Is that because they have an entering instinctive ability to track down criminals? Or because the prosecution does such a magnificent job of presenting its case? Possibly, but not very likely. The real reason why these numbers are so skewed in the government's favor is because they have tremendous advantages in virtually every case they take on. The Minnick case demonstrated this time and again. Kevin's court-appointed lawyer had a tightly scripted bridge that made it close to impossible to hire expert witnesses, take the time to go through the mountains of evidence, or otherwise mount an adequate defense. The prosecution, on the other hand, had an unlimited budget and was able to hire as many people as they needed. The taxpayers covered the whole thing and a nice look at the court transcripts (readable at www.fredwin.com) shows a judge blatantly biased in favor of the prosecution.

The inability of Kevin's legal team to adequately prepare for the case meant that there was a very real possibility of a guilty verdict in a trial. It's not hard at all to get such a verdict when evidence is deliberately confused, missing, or misleading. And, regrettably, this seems to be the way the game is played.

Since Kevin could have faced an additional decade in prison if he were to be found guilty in this manner, it made very little sense to take such a risk. By accepting a plea before trial, Kevin would be guaranteed at most another year of confinement. After more than four years of his

## a culmination of efforts

If he lost in this, not counting the years spent trying to make this lesson of Justice and the 1999 nightmare of being locked in solitary for eight months, it provided a sense of closure to at least Kevin when the nightmare would end.

We've seen this before countless times. The Phiser Oyley and Benita S. cases are two historic examples where the defendants were forced to accept a plea when what they wanted above all else was to fight the injustice. Real life isn't like an episode of Perry Mason, where all sides of the story are heard and justice always prevails.

When details of this plea agreement were mysteriously leaked (this was never investigated but it would have been an incredibly stupid move for a member of the defense team to leak this as it could jeopardize the entire agreement), many people made the mistake of thinking it was all over.

- Here from it:
- While Kevin may have had no choice but to accept this agreement, he is a strong guy from Boulder. And, it would appear, there are those who want the suffering to continue and even intensify:
1. Making a phone call to Novell on January 4, 1994 and pretending he was "Gabe Smith."
  2. Making a phone call to Motorola on February 19, 1994 and pretending he was "Yoni Gibbers."
  3. Making a phone call to Fujitsu on April 15, 1994 and pretending he was "Chris Stephenson."
  4. Making a phone call to Natus on April 21, 1994 and pretending he was "Adam Gould."
  5. Allowing data in a computer belonging to the University of Southern California, between June 1993 and June 1994.
  6. Scuffing passwords on network.com.
  7. Improperly accessing well.com.

We all know that lying on the telephone to perfect strangers is wrong. And taking advantage of society's security to capture unscrupulous passwords isn't ethical. And it's always a bad idea to log into a computer system using someone else's account. And as for allowing data, no real debate on that has ever been released - it

could be something as simple as allowing up in a log file - thus starting data. If it were anything else, such as creating a single file, we probably would have heard all about it.

Assuming that Kevin was guilty of all of these charges, how can anyone justify the amount of prison time he has received? Especially when there were no allegations of damage to any system (other than the very vague hint above), no profiting in any way, or doing anything that could be considered malicious? The stone of course was, by any reasonable standard, why? What exactly they're telling us?

It's no secret that Kevin passed off some pretty big companies when he cracked down into choosing him their source code for cellular phones (long since outbought, incidentally). In fact, in letters obtained by 2600 that were put up on our web site, NRG, Novell, Nokia, Fujitsu, and Sun Microsystems all also direct or implied blame the total several hundred million dollars. All of the letters appear to have been dictated by the FBI shortly after Minnick was released in 1995.

That is where things get interesting. If such blazes were actually suffered by these companies, it is flippant for them not to report this to their stockholders. The Securities and Exchange Commission is quite clear on this. Yet, not a single one of these companies reported any such loss. In fact, Sun Microsystems implied a loss of around \$80 million due to Kevin doing this to look at the source code to Solaris. But if one wanders around their web pages, an interesting quotation can be found: "Sun firmly believes that students and teachers need access to secure code to enhance their technology learning experience." Even if you don't meet their qualifications for this, you can still get the Solaris source code for \$1000. That's quite a deprecation in a mere four years, isn't it? If we were to apply this level of exaggeration to the other claims, Kevin's total amount of damages would be considerable in the neighborhood of \$950.

It gets even better. When the government found out that we had obtained these documents and were making them public, they went ballistic. At press time, they had filed a motion to have Kevin's lawyer held in contempt of court because they believed he was the source of the documents. (Memorable holding was over said about the leaking of the plea agreement earlier in the year.) Judge Mustafa Tashbar has given

every indication that she will seriously consider this motion and has already agreed to keep any future evidence to be used against Minnick at his sentencing a secret. In other words, any other damaging documents which could reveal what a shame this entire case has been will be kept hidden from the public.

After this is an abuse of power - at worst, a cover-up of massive proportions. Public reaction has become increasingly vocal in this case and we know now that this has had an effect. The government's way of acknowledging this is both cowardly and unjust and it cannot go unchallenged.

By the time you read this, nationwide demonstrations in front of federal courthouses all over the country will have taken place on June 4. We are seeing an unprecedented amount of activism in the hacker community and the reason is simple. This is just too much to tolerate. We cannot permit this suffering to continue. And those who stand by silently are as guilty as those debating on this kind of abuse.

We want to have to look for the big secrets. As we go to press, a new case involving "proliferated electronic communication intercepting devices" is beginning to play out. Radio enthusiasts Bill Check of California was arrested by federal authorities and accused of violating the law simply because he tried to distribute devices that allow people to monitor police broadcasts, as people have done now for decades. Apparently, such communications, along with cellular and pager traffic, are now to be considered "off limits" to average people.

Fortunately, this case has started to attract attention in its early stages. That is likely to make all the difference in the world. But we have to wonder how many more people will be subjected to arrest and unusual punishment because they dared to explore something that powerful entities wanted to keep secret.

We don't know how many there will be but we do know there will be more. And what happens to those people in the years ahead will be directly affected by what we do here in the present. If we stand idly by, there will be no end of Minnick and Chubb cases. But for every person who stands up and objects to this kind of treatment, a small bit of the armor will be chipped away. It's a proven fact that we have this power. What has yet to be determined is how much we will use it.

## Fun at Costco

by gork

This article will cover the basics of hacking Costco's AS/400 or generic systems. First a little background: Costcos all over the United States all use AS/400 terminals for everything from adding new members to tracking inventory and distribute e-mail. These terminals are almost in every sense of the word. Each terminal has a unique ID and can be plugged in anywhere on the network. They are served by an incredibly fast group of mainframes located in Issaquah, Washington. These terminals are scattered about the warehouse. There are several in membership, administration, front end (cash registers), on the dock, and in the optical department.

The keyboard layout and operation are slightly confusing at first, but - keep this in mind - many input fields used to be "command", and this can be accomplished with the "field edit" key located either where the traditional return key is, or the enter key on the J-keys. This form submit, or enter key is usually mapped to the r-control. Should you make a mistake entering your request or otherwise foul up you will either get a flashing X in the lower left of the screen, or an inverse flashing error circle in the same region. Pressing the reset button can usually clear this; this is typically mapped to the lf-control.

With this in mind you can attempt to gain access to the wonderful world of AS/400. Recently, corporate headquarters attempted to shore up the security of these terminals. In the past, the generic login and password for the warehouse was either WXYZEDP, WXYZINA, where xxx is the warehouse number. (If you're not sure what the warehouse number is, go to membership and ask the friendly person there for a

catalogue of all the Costcos in the USA. Maps of the locations list all the warehouse numbers.) With this new password policy, each department and manager received a new login and password. Some warehouses still keep a generic login around, a popular one around my area is LOGIN, WXYZEDP, PASSWORD, WXYZEDP. If you are not so fortunate to find a working generic login, you are going to have to social engineer your way in.

If your finger state has a terminal in its "cash center" (the corner of the store with all the computers and scanners) it should be very easy to obtain either access or access and a password. First, cycle the terminal on and off - this will bring it back to a login screen. Then find an item and ask one of the tech center employees to look it up at another warehouse. Most employees are not concerned with security, so stuffing login and password should be no problem.

If you managed to get the login and password, you might want to check out the security of the receiving dock. In stores around my locale, in the evening (between 5:30 and close) the dock becomes a graveyard. There are terminals relatively undisturbed. Worst comes to worst, you are chased off the dock. Have a lame excuse involving looking for theater business cards, and you will not be given another thought.

Once you are in you will be presented with about 36 options. Most of them are pretty useless, unless you have some vendetta against Sears and want to waste some paper. Most of the options involve firing up printers and spitting out lists of bearing information. (Option 92 is CHAR-LIFE, a utility for ordering prescription lenses for glasses. This takes another pass-

word to enter and really has very few interesting options. If you do enter this menu and don't have a password, you will have to reboot. From this menu, options C12, I14, and I41 can be accessed. They are not listed, but do work. C12 gives information about departments by category and warehouse. I14 brings up all sorts of information about items via the item number. This is particularly useful if you want to find the status of a "last one" item. If the item is "pending dealer" and you want to buy it, you can count on asking for money off, and you will probably get it. I41 is nice if you need to search for an item by description.

The really interesting menu is the membership menu: option 51. Unfortunately, this requires yet another password. This can be obtained from the friendly people at the front end (the info desk or cashier near the cash registers). My advice for obtaining this list is to first wait until the desk is deserted and check under the phone or calculator. The password is sometimes taped onto the bottom. Otherwise, be prepared for another social engineering adventure.

Wait until the terminal resets and is at the login screen. Find a supervisor or a manager on the front end and tell them that you have had problems with your card. Tell them that some kind of weird block came up the last time you shopped. Tell them that the block had something to do with a change of address and you want to make sure it's all cleared up. They will login and enter the membership screen. Surf the password and note the terminal number they enter (usually 99). Now you have everything you need to do some serious exploiting.

From option 51, the real fun begins. Option 2 on this menu gives access to the membership database. Addresses, spouse

info, phone numbers, etc. can be found here. Option 22 is nice; it fires up the membership card printer (only works from the terminals in membership) and allows printing of employee manifests. Option 24 gives you all sorts of information about cancelled memberships. Option 5 is rather powerful as well - more membership information can be found here.

From the menu that option 5 brings you to, membership info, membership blocks, and member shopping info is available. Membership info is just more of Big Brother's tracking of you, your spouse, and anyone else who has a card on your account. Membership blocks is a list of all the blocks on an account. From here, you can request that blocks be added or removed. For instance, if you pay your membership fees, and the records are never updated, the "expired" block will show up on your card. If you find that the membership was paid can be obtained, a supervisor will submit a request that the block be ignored. As far as the terminal is concerned, you are the supervisor. Blocks can be added in a similar way; imagine the possibilities. Shopping info is another nice feature. Costco can monitor your shopping habits, what you buy, when and how much - a nice Big Brother's bunch.

Costco is pretty lax about security as a whole, and usually lax with members. Typically, Costco will eject a shoplifter rather than call the police, so a hacker should feel pretty safe. If you are caught, just make up a lame excuse, "Oh, I thought these were for everybody." The options I mentioned are just a few of the really fun things one can do; there is much more hidden away. This should give you a nice jumping off place and allow you to discover the truly interesting stuff like fraudulent e-mail!

**New Lower Prices! See Page 29!**



# Broad Band Use The Earth

by saint  
saint@pacnetworld.com

For the average Internet user, or the computer experimenter, the thought of having access to a high speed data link is what dreams are made of. Broad band data transfer would allow a world of applications to be run on a Local Area Network. Broad band data transfer would also mean pretty hefty transfer speeds to the Internet. Without access to dedicated wired connections, or wireless networking, can this ever become a reality?

Noted has recently introduced a network of distributing computer network signals via standard electrical wiring. This is re-application of old technology with a new twist.

For many years, colleges and various institutions used electrical power lines to "broadcast" radio signals to listeners within a limited area. Types of modulation varied, with both AM and FM modulation being used.

The Intercollegiate Broadcast System (IBS) stresses such a system in their 1978 Master Handbook for college radio stations.

There are a few limitations to this system however. The greatest limitation is the need for varying at each electrical sub station. Radio frequency data cannot be pushed up through the sub station transformer array, due to impedance and other electrical factors. The next limitation is the noise generated and carried on the actual electrical power line. Electrical lines are designed and built to carry electricity and not radio frequency data.

Looking back into the lost pages of history, there may be just a more promising avenue of approach.

Imagine using good old matter earth as a large conduit for data streams. Impossible, you say. Well, let's look back in time.

## Chapter 1

The first prominent chapter is the great experimenter and visionary, Nikola Tesla. Tesla was among the greatest inventors of the late 1800's and early 1900's. His work far surpassed that of John Lodge, David, Guglielmo Marconi, and Thomas Edison.

Tesla envisioned a system where utilizing power could be transmitted through the earth in 1899, at his laboratory located in Colorado

Spring, Colorado. Tesla succeeded in sending electrical current through the ground, and produced magnificent magnetic lightning as a result. One of the most dramatic occurrences of this particular experiment was that the equipment used to monitor the electrical current into the earth worked so well that the generating station in Colorado Springs was set on fire due to "excessive feedback" from the induced electrical current into the earth. Remember the basic system of radio operation - the antenna and ground system. Tesla was also able to correlate information and determine the natural frequency of the earth. I believe this frequency is 23 KHz.

Here is proof positive that electrical current can be transmitted through the earth, and that the electrical waves can travel at distances beyond a mere few feet.

## Second Chapter

The second prominent chapter is during World War I. Wireless sets were not readily available for deployment to ground forces. It was, and still is, used for communications to be consistently available for some studies to direct operations.

The method of operation in WWI was trench warfare. Long miles of trenches stretched each side was of operation. Real time communication was essential, as human and pigeon couriers were not immune to the inhumanity of the opposing side's aerial.

The French used a primitive version of the modern field telephone. Their system consisted of the standard telephone handset and signal generator. (This signal generator sends that the other user that a telephone call was coming through.)

Next like the modern ring of a telephone.)

The transmitter the French had was that in lieu of using wires to connect the telephones, they used the earth as a conductor. This method was used for a short while until the Germans developed a sensitive earth amplifier that they employed on their side of the trenches. (It is important to remember that the opposing sides' trenches were often miles apart, with various earth conditions separating the two.) The Germans would intercept and "convert" signals that the French were sending out through their "earthen" field telephone system. The French countered by employing a shield ground and wire enclosures, thus limiting the detected current

sent via the ground portion of their field telephone system. They also used a vacuum tube rectifier, which generated "white noise" or random electrical current that would mask the grounded side of their field telephone system. The Germans were thus denied the ability to monitor the French earthen audio.

## Third Chapter

During World War 2, US, transmitter specifications were forbidden and outlawed by the opponent authority. The federal government was fearful that the US powers would monitor these communications and receive valuable intelligence.

The ever successful amateur radio operator turned to conducting "heat" via earthen audio communications. The basis was nearly identical to what the French had used in their "earthen" field telephone system.

Modern Day:

In *Modern Communications Magazine* (September 1990), a detailed description of "A Ground Communication System" is discussed. The basis for this system is a mini, audio pre-amplifier, attenuator, and a transformer for the "transmitter" portion of the system. The input is actually the mic. The pre-amplifier boosts the audio data from the mic to the stereo amplifier. The transformer acts as an impedance match to match the amplifier to the grounded element.

The receiver portion consists of a transformer, amplifier, and a speaker. The operation consists of the transmitter matching the impedance of the grounded receiving end to the transformer. The amplifier passes on the received data to the speaker.

Ground methods considered were: (1) use a quick check of the American Radio Relay League handbook would provide a more detailed explanation and selection of ground techniques.

Ground element spacing would have to be placed for each individual station. Ground connection, water table, and sub surface structures (metal water or sewer pipes) would probably affect the "ground radiation" pattern. You would want to achieve maximum electrical potential, to achieve the maximum transfer of electrical current in the most usable communication range.

Are there established a "grounded earth" audio test, so what? How does your medium work? That's right, good old earth.

The standard ungrounded telephone line has an audio spectrum of 3016 to 3090 Hz.

Now then, imagine setting up your computer modem to communicate via your "grounded earth" telephone line. You could develop your own emergency road 911's, without having to activate MA 3611.

Unlike telephone lines, where lines must be conditioned to maximize binary data transfer, an earth's ground data communications system would have no such electrical devices to impede spectrum usage.

The only drawbacks to such a system would be:

Excessive noise: Much like the French using their audio oscillator to generate random electrical noise, the modern household utilizes abundant electrical hash and trash into the surrounding ground - through the electrical overpass, ground, or power box. Don't forget the telephone company, cable company, and your own amateur radio station equipment. You would have to use a software or hardware based digital signal processor to filter out the unwanted electrical noise. Remember that we are dealing with binary data transfer and random electrical noise you effectively reduce the speed of your data link.

Range: Depending on the ground system used and the condition of the soil where you place your earthen ground system, your actual mileage will vary greatly. The one factor in your favor: there is no limit on the amount of electrical current that you can pump into the earth. (Just remember that any electrical current that you feed into the ground you have the potential of sucking back into the household ground on your electrical ketchup (yes, ketchup) TV ground, and the telephone ground. Another consideration is that you don't want to feed too much electrical current into the ground that would cause an excavation toward (business or person).

Privacy of information: Flowing through this data link could be a factor. (Remember, just as the Germans did in WW1, anyone could monitor this data - and vice versa.)

Forward Forward Network: Microsoft and several other companies have developed a software solution to this problem. In essence, through a VPN, you establish a secure (encrypted) data flow between your computer and the host computer over an existing computer network. Through such a system, you can exchange data without the fear of compromising data.

Bandwidth: How do you rate when kind of bandwidth such a system could offer. The least amount

**Broad Band Continued On p. 55**

# Secrets Of Copy Protection Copy Protection

by real access  
maksimov@juno.com

**R**emember the time when you downloaded a program, but after a couple of days of using it, a message came up saying that your evaluation time is over and that you gotta pay now? There you noticed that by changing a number in the program's init file, or by simply setting back your system clock, you could keep on using the program for free?

Well, you can kiss all that goodbye. Thanks to headlines like "\$11 Billion Of Developers Income Lost To Piracy", a multitude of companies are working on different types of locks that prevent anyone from "illegally" copying or using software. You probably won't see this stuff in your next version of Quake, but if you've downloaded fully working demos of programs off the Net, or buy more than \$1,000 programs designed by the NSA or NASA, chances are you've already seen these locks at work.

There are two types of software protection locks commonly used today: 1. hardware locks and software locks. These control everything from the number of keys the program says are left to the number of times the program can be run, to which hardware can be accessed and their sizes.

## Hardware Locks

Let's examine hardware locks first. These tend to hook up to a port on your computer. Most use either a USB port or a parallel port, although models that use ISA slots, PCMCIA Type II or other, wonder ports also exist. Most of these are small enough to fit in the palm of your hand, and can have other peripherals connected to them. For example, if you take up a printer port, you can connect the printer to the back of the lock - the locks are made in such a way that they are usually invisible to the user, and other processes running on the system.

You may be thinking "How the hell can a piece of hardware prevent me from running a program?" Well, it can. When the program is started it looks for the hardware lock on the des-

ktop/port. If it is not there, the program simply refuses to run. No code, no locks. If the lock is present, a query is then sent asking for an algorithm. If the algorithm received can do any parts of the program, the program will run. This is just one way it can be done - there are other ways, although they are mostly similar.

The hardware locks may be involved multiple times during the run of the program, to check whether the user has a right to use this or that function. Most locks also have the ability to store small amounts of information, such as the number of times a program has been run, or the number of days it's been on the system.

There is a big side thought - programs utilizing hardware locks may be copied as many times as you want (generate the lock will be needed to run every copy), and the locks support many different types of networks and OSes. Also, multiple locks may be daisy chained to the same port, using hardware spacers, instead of using software locks, which sometimes significantly limit the size of executables. However, with these spacers come two big measures. First, each lock received you from debugging or system engineering the program - i.e., the program can't be opened into hex editors. Second, in case you don't already realize this, the algorithms used in the locks are different for each individual lock, so you can't just buy extra locks instead of buying extra programs and locks - i.e., if you crack one lock's algorithm, that's all you've done - you've cracked one lock's algorithm.

## Keys Of Noting The System

All the keys described here are theoretical, as I don't have the time, nor the resources to try them out:

1. If you can somehow measure the traffic between the port that the lock is on and your computer, you may catch the algorithm used. From there you can probably make an emulator that replicates that hardware lock.

2. If you're lock is the type that allows debugging, fix up your favorite hex editor and delete the calls to the hardware lock files in your work-

ing or the system's where the algorithm is required to decrypt parts of the program.

3. If you are a real hardware person, and have a lot of those resources on your hands, open up the device lock, and see what you can find inside.

## Software Locks

Software locks are used a lot more than their hardware counterparts (I mean, really, you the hell wants to carry around a bunch of algorithms that are easily misguiding so that they can run a bunch of complex, encrypted programs?). The sad thing though, is that software locks are integrated into the application they are protecting, which makes it even more of a bitch than hardware locks to beat.

With most of the software locks I've researched, the programmer who creates the application that is to be protected has to himself make calls to the "lock libraries" supplied by the author of the lock. The libraries supplied make up the Developer Kit. Then the program is compiled, linked, and distributed. This creates an application so that it is own protection. There are no external files that can be messed with (except for maybe DLLs), and since the libraries normally have the ability to keep track of time, you can't just see the system time back.

When the program is first run, or its boot system, it looks for individual variables that would always vary from computer to computer. It then makes a checksum of these variables, and displays it to the user (this is the Site Code). The user is then instructed to call some file. The company that gave him the software, and give them the Site Code. The Site Code is then entered into a Site Key generator, which generates its own checksum (the Site Key), based on the Site Code. The Site Key is then given back to the user who enters it into the program. The program then somehow checks the validity of the Site Key (different programs use different methods, and, if it is valid, runs itself). This is not quite an only case.

There can be different Site Keys for one Site Code. The Site Key tells the program that how many days the program can run, what parts of the program may be used etc. This is also a fine way hardware locks, since the Site Key may be changed over time (from demo version to registered version), without requiring the user to get a new copy of the program. However, the program

may not be copied and to used on different systems, because the Site Code will be different for each computer (well, actually you can copy it, but you have to pay every time you copy it for the Site Code to be processed and the Site Key to be given to you).

There are two new features that some companies are including with their software locks. One is the ability to use any executable, over a network. This works on a first come, first served basis, eliminating the need to obtain a license for every user on the network. The second is "insurance protection". This eliminates the need for a programmer to make calls to the libraries in the source code, but instead encapsulates the executable in a layer of protection (this protection is, however, most limited than it would be through the Developer Kit).

## Keys Of Beating The System

Like the hardware lock "ways of beating the system", these are purely theoretical, and what works for one lock may not work for another.

1. If you have one of those "Spy" programs that "eats" with computers (Spy 1.1), you can use them to keep track of the different functions calls by programs, and, well, use your imagination from here.

2. Fix up the registry, hex editor, and see what you can find!

3. Get a copy of the Developer Kit, and decompile the libraries - see what you can find!

4. If you can find out what variables the program checks for when making the Site Code, you might be able to emulate them.

5. Fancier one - get a copy of the Site Key Generator.

## Final Thoughts

Well, greater and more expensive every program adheres Kill of Watermark? Probably not. There will always be enough holes so that someone with an IQ of just above average will be able to devise a way to get a working copy of a program. What will happen is that probably most of the AOL Water Markers will not be able to get their copies of Microsoft High Schooler 2005 and Heaven EX (and/or the time period) for free, and cease to exist. Even then, software cracking might actually get to a new level of backdoor, due to the new challenges, since the hunt will be more important than the kill.









**PRICK** stings for pain

**PRINCE OF DARKNESS** the devil

**PROBING** to explore in sexual intercourse with  
many persons

**PROPEL** to propel or expel sharply but gently a  
projectile from a gun

**PROSTITUTE** to sell sexual services

**PROVISION** coal stored

**PSYCHOPATH** mentally unstable

**PSYCHOLOGICAL** mentally unstable persons

**PSYCHOSIS** mentally unstable persons

**PUBES** the region of the pubic

**PUBLIC** the region of the pubis or the pubes

**PURBANK** a STEE sitting for publicity

**PURNANI** vagina

**PURNANI** vagina

**PURPET** to purgify, sting for prophetic

**PURPET SHOW** child pornography

**PURPET SHOW** TRUCK pornography

**PURPET SHOW** TRUCK pornography

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**SAWED** to cut a person's hair, or object to  
a habit

**SACRIFICING** to offer a person's life, or  
object to a habit

**SADISM** pleasure from hurting others

**SADOMASOCHISM** sexual pleasure from sadism or  
masochism

**SANQUINITY** QUALITY a key or gel below the legal  
age of consent

**SANTERIA** religious involving allegedly wooded,  
sexual practices

**SATAN** Lucifer, the chief of the fallen angels

**SATANIC** referring to Satan

**SATANIST** worship of Satan

**SATANIST** one who practices satanism

**SATANIST** persons who practice satanism

**SATIRICAL** SPECIAL a gun  
with a hole

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# The Future Of IPv6

by rfc

The number of IPv4 (Internet Protocol) Addresses will soon start to run out. Luckily, we have IPv6 for IPv4's next-generation, the new replacement of IPv4. IPv6, or Internet Protocol Version 6, is the protocol that we use every time we dial up Site our Internet Service Provider. Start up our net work, mailing, etc. Each time you log on to a network, the DHCP (Dynamic Host Configuration Protocol) server gives you an IP address. IPv4 uses 32-bit addressing, which gives us about 4 million valid addresses to be used on the Internet. However, it only allows 255 addresses to be used for each network (255.255.255.255 is the highest you can go). Unlike IPv4, IPv6 uses 128-bit addressing, and uses Hex instead of decimal. This creates many more addresses to be used, which will be needed in about 2010 or soon 2005. To give you an example of a standard v4 address:

209.215.158.39

(IPv6) we have IPv6's cool converted:

DC:AB:FE:51:0:82:0:4:R5:1X:CH:RE:K4:1:3:4:9:DA:DD

If the address consists of 8, then we can use it as a hexadecimal. Example:

2138:49C7:0:0:0:231:302:191 = 2138.49C7.231.302.191

IPv4 addresses can also be put into the form of IPv6:

128.128.128.128 = 0:0:0:0:0:128:128:128:128

Using IPv4 addresses, we can only go from 0.0.0.0 to 255.255.255.255, whereas with IPv6s, we can use our own combinations of hexadecimal values. The Internet is as you know, growing larger every day, so having IPv6's post-stained will make the service center than upgrading IPv4's packets see in less form:

- have labels (helps with message handling through process)
- version (version of the protocol)
- hop limit (used to direct if packets that are dead, or packets with 0' in this field)
- source address (the source address)
- destination address (destination address)
- next header (the type of header following this IPv4 header)
- payload length (when the packet size after the header will be)

The standard IPv6 address structure:

source IP:addr (

0:long

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\*# version \*

\*# flow label \*

\*# payload length \*

\*# next header \*

\*# hop limit \*

\*# source address \*

\*# dest address \*

IP tunneling can be used for this conversion from IPv4 to IPv6. This is done because machines that have not upgraded to IPv6 can still use IPv4 addresses.

IPv6 security might also decrease the number of security holes out there. IPv6 uses stronger random the IPsec encapsulating security that which uses one of the DNS encryption algorithms to encode the header. More importantly, the "IPsec authentication header" is used to encrypt the header, but not content. This will prevent many DoS attacks that use random source addresses to spoof their packets.



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Editor used to be a security expert. He was not  
is it possible to see the source of the code?

Many of the people that have been the source of the security  
has been developed.

Dear 2600:

As a longtime reader and full time reporter, it was  
with some that some interest that I read "How to  
Hack the Net." In 1991 I think Mr. X was spotted in  
some of hacker publications. But before I can make a  
comment, I must emphasize a couple of points:

1. It is not that most of you work, give an inter-  
viewer a copy of an article because it's possible (which  
you get into some sticky). First, Anonymous pro-  
grams (except for the "How to Hack the Net") do not  
allow you to edit or have read back your quotes in a  
way that makes sense of the article.

2. Make an effort to read more of the magazine's pre-  
viously published material, so you can decide for your-  
self whether or not you even want to be interviewed. In  
other words, is the magazine fair? Or simply going for the  
quick and dirty "will make" hit piece? The UK, read a  
million times in their technology thinking that Mark's  
15 minutes is a good thing and a hell, always... if you  
don't think the magazine will eventually cover your  
story, just say "No thank you."

Now then, My next comment, Ken's full paragraph,  
which I think may be the article's most important point.  
The media is not your enemy. The media is a tool and  
like any tool it can be used for both positive and nega-  
tive results. In this instance, News demonstrates a pro-  
fessional understanding of the news business, and one  
which I think should be respected. Respect "news" with  
"journalism" and you will have one of the best news  
sources. And hackers and reporters (good ones, pure  
knights of 3 news judgment, integrity) actually have a lot  
in common. In some circles, a position for details, a



to your APO address.

Re: "Lerner," James Carden mentions in his letter regarding cable modem security that there is no way to detect a host with its interface in promiscuous mode. This is not entirely true, as there are many known implementations of the IP stack out there. On other Linux kernels, one could simply map a bogus MAC address to the kernel's IP address. It's not a targetted attack, but it does give it a ping. I tried to check the MAC address before passing it up to the IP stack in promiscuous mode. In theory, other systems with the Berkeley Packet Filter or Sun's Network Layer 1.0 stack would also be required to check. There's even a program in the Linux kernel that checks for promiscuous mode. I'll be sure to keep you posted on this. For you, NATHAN, located at nathan@pacbell.net, you can use the following IP address: 207.173.130.104. I'll be sure to keep you posted on this. For you, NATHAN, located at nathan@pacbell.net, you can use the following IP address: 207.173.130.104.

Dear 2000:

While reading "Working Home with Nature" in the 1601, I realized that the current version of Netbus, Version 2.01 Pro, had recently been released. So I contacted one of the authors, www.comcast.com, and asked me up the email again. As soon as I saw the source I noticed some new things. So I thought I might inform you and your readers about the new things in 2.01. In the new version of Netbus, the service has updated the overall design, changed the code for listening, and added a new feature to connect to, whether it's a local or a remote address. The new version of Netbus, Version 2.01 Pro, has been released. It is now available for download. It is now available for download. It is now available for download. It is now available for download.

### Military Mentality

Dear 2000:

I've noticed a rather interesting phenomenon going on at my place of work. I'm in the USAF and work in a non-combat support unit. I've noticed a rather interesting phenomenon going on at my place of work. I'm in the USAF and work in a non-combat support unit. I've noticed a rather interesting phenomenon going on at my place of work. I'm in the USAF and work in a non-combat support unit.

See flighted. It surprised if someone mentioned it, you can't really blame it on 95 percent of USAF networks. You can't really blame it on 95 percent of USAF networks. You can't really blame it on 95 percent of USAF networks. You can't really blame it on 95 percent of USAF networks.

Dear 2000:

I am in the Navy right now stationed at the Naval Training Center, Great Lakes, MI. The phone system that you have here is really shiny and has many errors in it. The main one that I noticed is that whenever I call the bar, it always rings for a minute and then hangs up. I've called the bar many times and it always happens. I've called the bar many times and it always happens. I've called the bar many times and it always happens.

Dear 2000:

I used a letter from a girlfriend named "Charlie" in your last issue when I wanted to have a "love" military ID card with the social security number of 000-000-0000. Now I don't know if it's just looking for some results for something that's not all that new, or if the just plain doesn't know what it is. When an ID card has 03, it means it is for someone that person couldn't remember his social security number at the time of issue. I also have a card like that. It was issued to me when I was about 13 and didn't have my SSN. Now that I'm currently in the army, people who don't have their SSN measured are in a pretty sad state themselves. Generally, it's a bigger problem as to how a military ID can be used to a service member than it is to a dependent, so I'm not quite positive on how to be requested.

### Education

Dear 2000:

I picked up my first issue of 2000 (USA) when it

was printed last year, and after reading Scott's "Book Office Journal" a great sense of relief and of closure washed over me.

You see, last summer, in the guise of being my friend for several months (and via my own stupidity) I got into the 900 defense commandment, my name. At which time I had been promised to continue my education, all the while trying something about my having worked this position (claiming to be unable) in the military. It was during this time that I was offered a job and I accepted it. I was offered a job and I accepted it. I was offered a job and I accepted it.

Dear 2000:

Although I live all year long in the military, I'm glad I can see your website because that's actually Scott's article. At last! Underneath the technical details of what's going on, you and my meeting, giving me a sense of freedom from the stress that's been building up in me. I'm glad I can see your website because that's actually Scott's article. At last! Underneath the technical details of what's going on, you and my meeting, giving me a sense of freedom from the stress that's been building up in me.

Dear 2000:

I am curious about the program that "Mink" got all those people to download. How did it work? Was it like an accelerated version of Netbus or Dark Orbits? Also, I was wondering if you could tell me where I could find all the LOO's names, websites, and all the rest files for you. What happened in the LEO program?

Dear 2000:

I received your magazine last night and was really impressed by your articles and how you see I am more impressed by your articles and how you see I am more impressed by your articles and how you see I am more impressed by your articles.

hipping through it. Now, as to why I am writing, I was reading all the "Scott Mink" letters in the latest section and I was a bit surprised when I saw that the name of the person who was featured in a story of getting a job. She had a very well published title and was offered by the judge with that served. Now the number of things in my opinion, it must have been more than one thing. Mink did. So she was released. His Mink's opinion regarding a fair. So, from what I saw.

Dear 2000:

That was an interesting read because the person in question was not off previously. The judge's opinion was that the judge was not really interested in either one, but he was the result of a prevailing condition. But the judge is that the judge is not really interested in either one, but he was the result of a prevailing condition. But the judge is that the judge is not really interested in either one, but he was the result of a prevailing condition.

Dear 2000:

I am a young 21 year old from Texas looking for English class to inform more people about this situation. And I have a question: are you just reporting Kevin because he is your friend or would you report anyone who was in Kevin's place, including someone you don't know? My main purpose was to see how things were going. I was just reporting Kevin because he is your friend or would you report anyone who was in Kevin's place, including someone you don't know?

Dear 2000:

How you need to get support for Kevin's issue from the DOJ or what shall I suggest?

Dear 2000:

Some people will suggest to me again with this whole "Free Kevin" thing. He is going to get caught. Now he has been sentenced to prison. The only thing I can do is to get the money out of him. The only thing I can do is to get the money out of him. The only thing I can do is to get the money out of him.

### Letters - continued on p. 48

## How To Keep Parents From Spying

by Jeff Minter '66

I realize that some of you out there are saying, "What the hell do kiddies know? Why even spend the time to write this?" Well, you were a kiddie once and the only way to ensure that the kiddies of tomorrow will know anything is if the asshole parents of today don't have a chance to get to the kiddies of today. That's all I would like to say that it is best to be honest to your parents. But let's face it - they might not understand. I would like to stress that the topics contained here are a last resort. Try and explain everything to your parents. But if they still need some stick from ass removal, then try this stuff.

First, a PO box is a good way to keep your mail from your parents. I would not recommend using friends because you are giving them the power to screw with your mail; it's pretty much giving the same power to another person. But if you are trying to keep costs down, skip out a PO box with another person and agree to only check it together. That way, the other person has money riding on it too and if something goes wrong you can just stop paying for the box. The other thing worth having is a free e-mail address. Or any free Internet e-mail so you can have an account to access anywhere without other people having access to it.

Second is hiding hard copies of software. You can get real creative with this one. Try keeping everything you can on disk. That way you can just say it is stuff for school. Encryption might be useful if your parents are real suspicious. Avoid obvious names for files like "hacking" and stuff like that. Try keeping a number system for your files. Like naming them "00000001.txt" or "12345678.txt". This also is good for the writing on the labels of disks. But this means you need a key to refer to in order to know what you have. I recommend keeping

an entire disk for this. Show the name of the file, what disk it is on, and what is in the file in brief. Also try renaming the extensions. Instead of .txt name it .mmp or something. .mmp works well because most programs won't associate to it. That way there is no association for the file and I doubt your parents would systematically try applications until they found one that would read the file. Sorry to all you MS-DOS users. I don't know much about them so I can't tell you much.

Encryption is sometimes a bit obvious so the above could be quite tricky. Hiding physical things is a bit harder a situation. If your school is a bit lax about searching lockers, hide things there. If you do this, there is a way to test to see when and how often your lockers get searched. Put a piece of clear tape over the hole in the lock or on the locker itself. The school doesn't bother with having the combination; they have a key for that. Do this with ten people who share a locker near you. That way you can see how many doors the tape is broken or removed. Try to develop a garden. If you keep things in there, don't let anyone know. The school will go crying to your parents, then you are double busted. Also, don't give anyone a reason to search your locker. Don't steal anything or sell anything the school wouldn't approve of.

If the lock on the locker is independent of the actual unit (if it is locked with a Master lock or something) buy your own lock and get it on an empty locker. Try to make the lock blend in. With this technique, if the lockers get searched, you can't get blamed because the locker is not in your name. Parents are easier to hide. Just take all the schoolwork for one semester and get it in a big pile. Stick any docs you want to do on. Try to dedicate an entire drawer drawer or a

**Parents continued on p. 47**

## FOOD FOR YOUR BRAIN

by UJ Tenz

A computer is a false sense of security. It doesn't exist. Everything is open for the taking. But what to do if everything seems to be locked tight with no way in? Start your way in. Let's use a make-up trick for an example as we go along. We will call this person "Joe1919". Say you're on IRC and this guy is being a real dick to everyone. What can you possibly do? Well, to start with you can run a whois on him and check what server he is using. If it's not specified most of the time it is UJ and start collecting information. I suggest keeping everything in a binder, or on the computer in a file. So you can e-mail and get the info.

```
(/Whois Joe1919)
Joe1919 is joe19@238-223.pcs343.serv-net.co
Joe1919 on 661joe19@irc.fid.ritnet
Joe1919 using irc.freeserv.com User:Joe1919 Server
Joe1919 End of /WHOIS 1354.
```

Right away you've got some information to peel or to keep in a document to recall when you need it. One thing to remember is to log your IRC sessions. I always do and it comes in very handy when you don't remember it. We can see that Joe1919 is using airc-serv-net and isn't using any ident software so if guess as his user name, which would be joe1919. We can assume that his e-mail address would be something along the lines of joe1919@serv-net.co. We can also see that if he is using an account which is actually divided up (usually Joe's probably in Canada due to the "ca" on the end of his IP. Some ISPs in America might have an address that ends something like "tor.on.ca"). All useful brain food. All the domains that Joe1919 is in that aren't us (guess) are almost too. That can give you a general idea of the person. If someone is in Atlanta, it's either a bisexual female or some hairy 19 year old male who doesn't have too many friends. All this can be documented in a text file or in your head if you can remember a lot of stuff the way I do. Next, you can try and finger the person. Finger can either be closed off from the public or it will be wide open for the taking of new information.

```
(/Finger joe19@serv-net.co)
Trying serv-net.co
Attempting to finger joe19@serv-net.co
Welcome To Serv-Net's Login Server.
Me Can Be Reached By Email Or Phone
If You Have Any Problems.

Toronto's FASTEST ISP!
*****

Login name: Joe1919 In real life: Joe1 Smith
Directory: jsmine/osers/joe1919 Shell: /bin/csh
Last login Tue May 27 12:01 on ttyne from fogland.com
New mail received Fri Apr 23 21:58:05 1999:
inread since Fri Apr 23 18:17:30 1999
No plan.
```

How. It's a whole load of information just in a simple legal process. Now we have a bunch of stuff to document. We know that joe1919's email address is joe1919@serv-net.co and we know



## ADVENTURES WITH NEIGHBORHOOD GATES

by Janidre

This article will attempt to enlighten you a little on those security gates found on gated communities, office buildings, etc.

The way most of these gates are set up is that there are two boxes: one for numbers, and another for visitors. The residents have either a magnetic entrance card of some sort, or a numeric code. The visitors must either have a debit entrance code (not likely), or must dial the house of the person whom they wish to visit. The dial box varies with different models - most will give a list of last names with corresponding three or four digit codes. When you dial the name of the person you wish to visit, you dial pound followed by the three or four digit code to most users. The box then calls that house and you have a time limited two way conversation with that person. They may allow you entrance by pushing a number on the keypad which opens the gate (the number being this case). Most gates have a default entrance code. I've heard "911" works on most gates. There is also a default code for postal workers, delivery people, untagged vehicles, etc.

While visiting friends who live in a gated community, they told me that they had passed up the phone number for the front entrance gate on their Caller ID. This manual also had a paper feature on its video screen. There was a camera no bigger than a dime built into the call box. We would actually view a television set into channel 13 and have a visual on who was at the gate. I was curious about the number that the box used to call out with, when we called it back, we got a warning that when dialed with any terminal program, it would send back inaccessible gibberish. After a few minutes of playing with the number, we found that it would do something strange. When a visitor at the gate would dial the three digit code to call out and we dialed the box at the same time, it would "speak". The line was somewhat patched through to that person, and we would have two way voice contact with a visual on our end. Of course, you can use your imagination as to

what you could do to a person who is waiting at a gate for entrance, and you have total control as to whether or not they get in.

There was one problem though. The three way limited and useless we were very quick to the redial, we then have a very good chance of connecting at that single moment when both us and the box dialed. The number would ring twice, and on the third ring the caller would pick up. At this time we were intent on controlling the gate completely. We took a walk out to take a look at the call box, and in addition to the name list, the name of the company who manufactures the system. With the guest log gate program, the system was intended to sit the net. Of course this company had a web site, and some download. Though I didn't have the programming software for the dial-up connection, they had a pretty useful FAQ. This FAQ had codes to establish two way voice communication with the person every time that passed when the current gate (up) it also had a code to lengthen the connection time. With the video option you had the chance to view the expressions of the people at the gate. Let's just say that we had total control over when was or was not going to visit the company.

We were curious as to what kind of password production it had, and if there was a backdoor. According to that FAQ, the box had a six digit code in order to add the names list on it. It would allow these lists, followed by a three minute delay. It said that if you forget your password, all you need is the serial number of the box. You call them and tell them the serial number, and presto, here's the password! We didn't go as far as to try the cover off the box to find a serial number, but hey, if you're willing to do that...

To make a long story short, we abused the video call box for four days straight. They eventually just shut off the video channel which took a lot of the fun out of messing with the box. The box, however, is all hands on as they can't deny you access to it without some work. These things won't work on all gate systems, but I can assure you that they aren't that different from needed to crack. Have fun!

## gnikp6H JsmretnI Internal Hacking

by Zenshick

I have seen many articles on hacking techniques connected to the Internet. They talk what intrigues me, I am more interested in the details of hacking on corporate networks.

Case in point, I work for a large software company - let's call it FCS. The company has a large internal network and uses Lotus Notes for its internal and external mail. We have highly secure internally protected us from attacks on the outside, and we are allowed almost free reign on the Internet using a group of proxy servers. The general feeling is that we have little to fear from hackers, and the reason is that everyone assumes hackers are on the other side of our firewall.

Corporate America is a place full of grudge-bearers, and saboteurs. It may surprise you, but I might decide to use their knowledge of computers to take advantage of another worker here, or even their boss. I shall now describe a pretty detailed hack using our corporate network.

### The Hack

Let's say that I am a little concerned with my salary. I believe that my boss is paying another development team that he is in charge of \$5, since discussion of salaries is verboten. I decide to do a little investigative work of my own. I decide to compare myself with Robert Smith, a member of the other development team, who I think should have a comparable salary to mine. I look up Robert Smith in the internal directory and find his office number. I fire up my browser and connect to our intranet site that manages all our IP addresses. I do a search for all IP addresses registered to Robert Smith's office number. The search returns two addresses, should say, and Eschscholzia. Through my amazing powers of deduction, I conclude that Eschscholzia is Robert's laptop, and Eschscholzia is the computer he uses his department work on. In this case I am interested in the personal machine. The site even says that Robert is running Windows NT on his laptop. So, connecting with a curl session I am able to see the shares on the machine and get a listing of the user names. Administrator (ohh), Guest (probably disabled), and remote (changed). Next step is to try the remote commands to connect to Eschscholzia and see if we

are lucky enough to have a nice easy password for username remote. Easy I try a blank password. No dice. Then I try "password". Nope. Then the old hacker favorite using the username as the password, and voila. At this point I have total access to his machine due to the fact that remote is an Administrator account. So I look through the hard drive and make myself a copy of the Lotus Notes ID files, and copy a keylogger over to his machine.

Now I need to get the keylogger running, so I fire up the Schedule service, or my favorite and his and add a job to run the keylogger in 5 minutes. Now it is just a matter of time before Robert types in his Lotus Notes password. So, I go out to lunch and come back to the office an hour later. I check the file the keylogger has created and see that he has probably gone to lunch. That is good news because when he returns he will probably have to type in his password because Notes will have timed out by then. So I do some work and check back to half an hour and even it is the key to the kingdom! His password is downloaded.

Now I need to know what server his mail is kept on. So I fire up Netscaper with my ID and do a search for his mail address and it gives me his mail server too. So then I search on his Notes ID, enter his password when prompted and then connect to his mail server and download the entire contents of his mail database. I am only really interested in the salary, so I quickly open a folder he has called "Salary". Sure enough it contains all his salary-related pay statements. I open up the most recent one and find that he makes almost twice as much as myself! I was right, my boss is paying the other team. So I forward a copy of the statement to every development team in the organization. Now I know my boss can't tell me everything gets paid beyond the scope of my next meeting with him.

### Epilogue

In this situation some salary information was gathered. It is all too easy to extend the situation to include much more disruptive activities, such as: fraud, etc. Security is viewed as an inside financial means outside firewall protection, but in today's technology-heavy environment, the danger might be just one office away.

# Batch vs. Interactive

by Stan Dawg

Computer systems use two basic kinds of processing: batch and interactive. Each type has its own advantages and disadvantages, and each type can be used in different ways. By the end of this analysis, you should have a better understanding of these differences and a better understanding of how they are used.

Interactive processing is what most of us are used to. It is exactly what it sounds like: when you are "interacting" with the computer. When you play a game of Quake2, you are running the Quake program (or job) interactively. Typing an article in Microsoft Word, as I am doing right now, is also interactive processing. All of the processing done by the program is done immediately and the results are soon instantly in front of you. Most users who work in a PC environment are almost always working interactively.

Batch processing is a little different from interactive processing. The programs (or jobs) are not performed immediately, but instead, put onto a queue to execute later. The best example of this in a PC environment is when you submit something to print. Your computer does not begin to print immediately (no raster boy: first it is, instead, it gets submitted to a queue managed by print manager). If it is the first or only item on the queue, then it will be printed immediately, but it actually is a batch job.

Yes, understanding that may be simple. It is probably just review for most readers. The question is how to use each one effectively. It may seem insignificant, but using the proper type of processing may keep you from being caught on a system that you are not supposed to be on. Of course, where you "should" and "shouldn't" be is a relative concept.

All systems have a way of monitoring jobs. On Windows 95/98/NT systems, it is the task manager. On the AIX/400, it is the WORKJOB screen. An ES/9000 may use an Interactive Output Facility (IOF) to monitor jobs. Every system has some way of doing this. In heavy user systems, there are many reasons for monitoring its jobs. Certainly, each type of job has its own resource pool (which is sometimes broken up again within each type of job) and at certain times of the day, and certain days of the year, they may be dramatically different. Their use, capacity, and saturation fluctuate constantly.

Why is this important? If it is important because since every system is different, you must know how the target system handles jobs in order to avoid detection. A system that belongs to a phone company, for example, will more than likely have an enormous amount of interactive jobs, relating to live phone calls. A system that has a large amount of dial in users would also have a high volume of interactive jobs. You should pay close attention to the locations where these jobs run, and make sure that your interactive job looks similar to the others. Try to match the naming conventions of the other users. You want your job to be indistinguishable from the others. If you do that, you can work for hours without ever being discovered.

Conversely, you want to avoid maintaining interactive jobs on systems that are not set up for that purpose. Universities and businesses usually fit into that description. They utilize their systems mostly for maintaining and processing internal jobs and information. An outside user would stick out like a sore thumb on these systems. If this is the case, you want to connect for short periods of time only. Find what you want and

take it offline to evaluate it. Plan your sessions to be quick and innocent looking, and if you must do something that is CPU intensive (such as a search), try to submit it interactively. Use standard naming conventions, and make the job fit in with the others. Also, there is another danger here that you must be very careful of: your chances of having a job held (or crash) are much greater. Computer operators and/or system administrators constantly monitor most heavy metal systems, and when a job holds, they begin to investigate. If a job holds on you, take care of it immediately! Kill (or cancel) the job before anyone notices it, or you will give yourself away.

Finally, I must mention that these two extreme examples are not always cut and dry in the real world. What I mean is that in the real world, a system performs many different functions, and uses both types of processing. During the day, a system may be running mostly interactive jobs, while at night, daily batch procedures may take over the system. You have to pay attention to what the trends for each individual system are and use your judgment on how to take advantage of these trends. A sloppy hacker will always get caught.

I will leave you with a few last tips to keep in mind. If you pay attention and study your environment, you can usually avoid detection.

On interactive heavy systems, one trend to look for is time zone differences. Most Coast to Coast clients might leave you hanging on a system where everyone has already signed off and gone home at 5:00 while it will may be 2:00 where you are.

Some things you may want to do are exclusive to a certain type of processing (printing).

Don't use too much CPU time and don't boost job priority. It makes your job look suspicious and draws attention to it.

When submitting batch jobs, log off to avoid being detected on your interactive

job. There is no point in creating two targets for you to be discovered.

A lot of things can be run either interactively or via batch. Just because one is standard or the default is not necessarily the right choice. Use your judgment to decide which is best for your goals. Think outside the lines.

Be careful crossing state territory. Laws fluctuate greatly from location to location. Make sure that when you cross the lines into "dangerous" territory, you know the consequences. ☺

## Parents continued from p. 40

shelf. It is hard to find a needle in a haystack so try to keep some organization to it. If you don't like the other options, be creative. Put posters on your ceiling and hide what you want between the poster and the ceiling. Put things in a light fixture, decore the bulb, and use a lamp for light. Put your current issues of 2600 in the case of your computer. (Be careful there is no seal that when broken gives warnings warntly work.) Whatever you do make sure it blends in and doesn't interfere with normal operation. An 8.5" by 11" badge in a poster might be suspicious.

Finally we come to how to hide things on a computer. The making directories in your system directory, or in an application's "program files" folder. People won't suspect a thing as long as it looks good. Try using folder names like "Vic" or "Bill" (see the part on renaming files to make it look better). Clear your "history" folder in whatever web browser you use if you check tracking sites. Be sure to also empty the "Temporary Internet Files". If you install programs you don't want your parents to know about, delete the shortcuts from the desktop and start menu.

In conclusion I would just like to restate that being honest with your parents is good, but if they don't understand you need to take certain measures. If you have any question comments or need more ideas e-mail me at: jcdhansen566@hotmail.com





# Manipulating The Aspect

by HYPERK

**A**spect is a manufacturer of Accounts Carl Distribution Systems (ACDS) or call center as they call it. It is basically another PBX with specialized functions. The architecture of the switch is fairly simple. It is based on a very scaled down version of AT&T System V Look. On top of that is an Informix database, which holds every little piece of data on the switch. The only other piece is the Aspect developed user interface and call routing software. The hardware is pretty basic - built-in CSUBSLE's for ISDN or analog T1s. Everything you plug into the switch (i.e., phones) may call them trunks, circuits, and terminals has dedicated cards. These cards plug into shelves and are controlled by a dedicated shelf controller card. All of these cards are tied together by a bus you slice down Ethernet. Yep, standard 10base-2 Ethernet (guess what happens when you remove a terminator). This Ethernet bus also connects to the main processor boards: Processor, Ethernet card, and Terminal Control card. The main processor is a Motorola and has a SCSI hard drive and tape drive connected to it. The Ethernet card connects the switch to the customer LAN. The Terminal Control card connects to VPI-110 terminals.

## Help should I read on?

You may be wondering "why do I care about some switch I've never heard of before?" Well - there are many links in the system and the company itself. The biggest hole: all the passwords on every Aspect system in the world are the same for each software revision! A new software version comes out about 1-2 times a year and that is the only time the passwords change. You know the password to one system; you know it for every system. What would I find out of these systems? I don't want to make it too easy for you but some of the swaggle customers are the IRS and Delta Airlines. You call one of the 800 numbers to the IRS and you are going through an Aspect switch.

## The Two-AM Together

The main part of the system is the Aspect switch user interface. This is just standard VPI-100 but can be accessed using TCP/IP. The interface is all menu driven and can be learned by just about anyone in a few minutes. You have the option to shell out to Unix, but this doesn't have much of a "legitimate" use. To get the full use of this user interface you have to log into the switch. If you have access to one of the VPI-100 terminals, you are just about in. If it's not logged in already. You want to be able to log in as god. All user IDs are the same as customers that agents use to log into the system. The login is usually 9998 and can be 9999 if 9999. This is the password that you must find out (get the later).

The other way is through the network. You can establish a normal telnet session with the switch, but this requires a few more passwords. Aspect provides a software package and a script to replace the switch interface. When you try and access the switch through the network, it checks your IP address against its HOSTS file - yeah, you used that right, just an ordinary HOSTS file in the normal directory.

The last way is through the dial up modem. There is a password to get past the modem security, but this is the same on all the Aspect systems as well. You can also attach a modem to a normal terminal port to make dialing in easier and not have to worry about a dial up password on Aspect (using someone dialing in on their modem).

## Need Help?

Aspect is based in San Jose, CA and provides technicians on system updates. They have a help desk in San Jose and Atlanta. They can dial into any Aspect system in the world by using a four digit site ID number. Because of the dedication to service, the help desk people are very willing to help and very willing to provide

information - all you need to know is the site ID number. Even if you don't have an ID number, remember, all you need is our password.

Most of the people in the help desks are not too bright. They are a fast growing company and will hire anybody for these positions. So, with a little social engineering, anything is possible. The most recent version of software is 7.0, so you probably want the 7.0 passwords. Passwords for the 9998 login spell a word on the DTMF pad but from the terminal you need to enter the digits. All other passwords are words. They always like to use punctuation (not means something like, \* translates as star - translates to files). That should be more than enough to get you started.

## The Tel

Now that you are in the system is yours. You should create another user and give it the same privileges as the 9998 user, which is called Technician. This will allow you an easy hackdoor in. Now, what is the most useful thing a switch can do? Keyword monitoring local calls or 800 numbers to an agent (or a long distance trunk).

All the call routing is done using Call Control Tables (CCTs). This is a very simple programming language using some word commands and parameters. The nice thing is the system will show you the classes of parameters you have. With a little bit of snooping CCTs, you can write a 10 line program to let you dial a local or 800 number, enter a password with your beach care phone, and be routed to an unattended 3000 distance trunk. There will be a main CCT used to route incoming calls to agents. You can insert a few lines into the main CCT and be able to break out into a trunk. Something to try: move call centers are busy so you get hold music. Well, if you play hold music for the incoming calls, but at the same time are listening for a password only you will know how to break out of the hold queue.

All other resources are managed by groups. Trunk groups are made for inbound trunks, local trunks, and long distance outbound trunks. Agents are divided into different groups to take different types of calls. Calls can be routed based on Dialed Number Ident-

ification Service (DNIS), or ANI. When using a CCT, you have to specify what trunk group the call will be coming to on, and on what group you want it to go out. Trunk groups are accessed by a number they are given but also have a description.

## Overriding Your Trunks

Any CCT you make or anything the CCT accesses will have to be given a name. Look around at what other CCTs and trunk groups are called and make up a name that goes along with the existing naming strategy. Keep in mind, people from Aspect and employees of the company that owns the switch will be in the switch looking around all the time. Anything you do will be seen by everyone, but if it doesn't stick out, nobody will question it. After you write a new CCT, you have to load it into the system. This action is written to the logs, and can sometimes take a few minutes and use resources on the switch. Do this after hours! Log files are kept as text files in a log directory. Vols included in the system - edit the logs. There are time log files. List them by date and edit the most recent one. Don't let anybody see that the CCTs have been loaded in the system. Any administrator who sees this will question what has happened.

## Other Thoughts

Remember, the switch is connected in the network through Ethernet. The Ethernet card doesn't filter anything out. While 800 agents' phone calls are going through the internal Ethernet bus, all packets from the LAN are broadcast on the internal Ethernet also. What happens when the fiber optic is totally flooded?

Most on site work for Aspect is done by a company called Norstar. Norstar is the only company that is certified to work on these switches. Remember that the help desk people are pretty clueless, and they don't know everything from Norstar. Find out more info from www.aspect.com. The helpdesk number for Aspect is 800-541-7799.

And as always, have fun and be careful. This is provided as information only. Use at your own risk.



# Pushbutton lock hacking

by Clark

This article is about pressing around with the Remcon board of T2 push-button locks. First, a quick overview: The locks come in two main models, the DL2700 and the DL2750 - the latter has a knob, the first comes with a handle. Handles are for more operation due to keypad accessibility being required in some situations.

These are the locks with a telephone like pad over the handle/knob, with the round sign replaced by an AL figure. They are run off a set of 5 AA batteries. These batteries are mounted on the opposite side of the door. They are protected by... one Phillips head screw. More on this later. Codes for these doors can range from three to five digits, and assuming 10 number combinations - this is almost three million different combos. Also, these locks are virtually unpickable. They do have a key override, but those are usually on someone's keychain.

Now for the fun part. The only true way to hack these is to reset them and basically take root on them! Here's how. One screw. Remove it. Remove a battery, and hit a few buttons to eliminate any existing power. Boon. No more memory registers. Now put the battery back in and close the door

back up. The system has now been reset successfully.

A word about the codes for these doors. You select a master code first. This is used not to open the door (although it does) - but to program instead. The default master code after a reset is 12345. Use this and the door will open, but it also waits for programming as well. First, reset the master code. For example, 1 and going to use 8888. (I use four digit PINs) so 1 hit AL, 1 AL, 8888 AL, 8888 and then I get six beeps. Success! Wait until the system beeps back up (audible sound from engine spinning the lock) and try it. 8888 should open the right up. Now, let's program a code for use (remember, 8888 is the master). Now, since I chose a four digit master, any other codes will have to be four digits. Don't ask me why. These locks can hold up to 15 unique user codes (three banks of five users), plus the master and a management code. The 15th user code can be replaced with a "one time entry" code as well - great for service maintenance, etc.

Extended functions of these locks include full unlock and relock (open during business hours, lock again after hours), disabling banks of users, and re-enabling of banks of users. Also, the time the lock stays unlocked after a good code has been entered can be changed to anywhere from 5 to 20 seconds.

These locks are a ton of fun, but they require you to be inside the room to reset the master password using the above method. If you want something that if you reset the master code - or any code, whoever is in charge will find out pretty damn quick.

The default master code (12345) cannot be used for programming - it must first be reprogrammed.



<http://www.2600.com>

CODE	PROGRAM	REMARKS
New Master	AL 1 AL	Manually, enter 3-5 digit code, then AL, enter same code again and listen for 6 beeps. Allows all functions.
Management	AL 2 AL	Enter same number of digits as master code. Allows all functions except Master Code, Management Code, and Passage.

User 1	AL 1 1 AL	Bank 1, User 1
User 2	AL 1 2 AL	Bank 1, User 2
User 3	AL 1 3 AL	Bank 1, User 3
User 4	AL 1 4 AL	Bank 1, User 4
User 5	AL 1 5 AL	Bank 1, User 5
User 6	AL 2 1 AL	Bank 2, User 1
User 7	AL 2 2 AL	Bank 2, User 2
User 8	AL 2 3 AL	Bank 2, User 3
User 9	AL 2 4 AL	Bank 2, User 4
User 10	AL 2 5 AL	Bank 2, User 5
User 11	AL 3 1 AL	Bank 3, User 1
User 12	AL 3 2 AL	Bank 3, User 2
User 13	AL 3 3 AL	Bank 3, User 3
User 14	AL 3 4 AL	Bank 3, User 4
User 15	AL 3 5 AL	Bank 3, User 5
Service	AL 3 AL	1 time entry, replaces User 15
	AL 4 1 AL	Re-enable Bank 1
	AL 4 2 AL	Re-enable Bank 2
	AL 4 3 AL	Re-enable Bank 3
	AL 4 4 AL	Re-enable Banks 1-3
	AL 4 5 AL	Unlock time - enter "1" for 5 seconds, "2" for 10 seconds, "3" for 15 seconds, "4" for 20 seconds. Inable passage - use master code only. Disable passage - use master code only. Disable Bank 1. Disable Bank 2. Disable Bank 3. Disable Banks 1-3 - local user lockout.

All users must be the same number of digits as the master code. To disable, enter master or management code, then program address (with no entry code), allow to relock.

## Broad Band From p. 17

of bandwidth would be necessary to use standard 56k modem. I am sure that bandwidth limitations would vary, due to cell content and related factors.

When would a local ground based communication system work?

If you were to encourage enough, you could

probably assemble the necessary hardware for less than \$2000 (both the send and receive portion, or a complete system).

Unlike standard RF communications, ground communications is not affected by atmospheric anomalies or propagation. Unlike the telephone system, your ground wave communications link would remain "On" at all times.

Flaggs, experimenting.



